



Department of Commerce

## Safety & Buildings Division

201 West Washington Avenue

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Madison, WI 53701-2658

Evaluation # 200316-I (Revised)

# Wisconsin Building Products Evaluation

Material

Spray Polyurethane Foam Insulation

Manufacturer

Foam Enterprises, Inc.  
13630 Watertower Circle  
Minneapolis, MN 55441

### SCOPE OF EVALUATION

**GENERAL:** This report evaluates the use of the CF and FE closed-cell rigid spray polyurethane insulation, manufactured by Foam Enterprises, Inc., evaluated as a foamed-in-place insulation for brick and block cavities, concrete block cavities, pre-cast hollow core block and plank, and new frame construction. The CF and FE foamed-in-place cellular plastic insulation was evaluated in accordance with the fire safety requirements for foam plastic, and thermal performance, for the codes listed below.

This review includes the cited **Comm** code requirements below in accordance with the current **Wisconsin Uniform Dwelling Code (UDC), for 1- & 2-family dwellings:**

- **Foam Plastic Material:** The CF and FE closed-cell rigid spray polyurethane insulation was evaluated in accordance with the fire safety requirements of **s. Comm 21.11**.
- **Thermal Performance:** The CF and FE closed-cell rigid spray polyurethane insulation was evaluated in accordance with the thermal performance requirements of **Subchapter VI, ss. Comm 22.20, 22.21, 22.23, 22.25, 22.27, 22.28, and 22.31**.

This review includes the cited **International Building Code (IBC)** requirements below in accordance with the current **Wisconsin Amended IBC Code:**

- **Foam Plastic:** The CF and FE closed-cell rigid spray polyurethane insulation was evaluated in accordance with the fire safety requirements of **ss. IBC 2603.1, 2603.2, 2603.3 and s. IBC 2603.4**.
- **Thermal Performance:** The CF and FE closed-cell rigid spray polyurethane insulation was evaluated in accordance with the thermal performance requirements of **s. Comm 63.1018(2)(a)1., (c)**.

## **DESCRIPTION AND USE**

The CF and FE closed-cell rigid spray polyurethane insulation included in this approval are CF 300 and CF 110-Comfort Foam<sup>®</sup>, FE 303-2.5, FE 303-2.7, 3.0-FEcoat<sup>®</sup> and Rockfoam<sup>®</sup>, FE 303-1.7 and FE 110-1.8.

CF and FE closed-cell rigid spray polyurethane foam is spray applied on surfaces such as roof decks and perimeter walls of residential and commercial buildings over a variety of substrates such as wood, metal or concrete either above or below grade.

## **TESTS AND RESULTS**

Tests for surface-burning characteristics for CF and FE closed-cell rigid spray polyurethane insulation were conducted in accordance with ASTM E84. The flame spread index was determined to be 30 and the smoke-developed value was determined to be 220 for 1-inch thickness, and 30 and the smoke-developed value was determined to be 420 for 3-inch thickness.

A thermal conductivity test for was performed in accordance with ASTM C518. The results were as follows: the thermal conductivity of CF and FE closed-cell rigid spray polyurethane insulation is 0.13-0.15 Btu-in./hr./ft.<sup>2</sup>/°F. The thermal resistance per inch is 6.808. Testing was conducted by Morton Sherman, consultMORTinc, St Petersburg, FL.

## **LIMITATIONS OF APPROVAL**

**General:** The CF and FE closed-cell rigid spray polyurethane insulation is approved for installation in the cores of concrete-block walls, in the cavities between block and brick or double-brick walls and in pre-cast panels.

The CF and FE closed-cell rigid spray polyurethane insulation shall be installed by licensed, certified Foam Enterprises dealers in accordance with the manufacturer's recommendations.

The **Comm** limitation requirements below are in accordance with the current **Wisconsin Uniform Dwelling Code (UDC), for 1- & 2-family dwellings:**

- **Foam Plastic:** The CF and FE closed-cell rigid spray polyurethane insulation shall be separated from the building interior with a thermal barrier as required by **s. Comm 21.11 (1)**.
- **Thermal Performance:** The CF and FE closed-cell rigid spray polyurethane insulation shall meet the thermal performance requirements of **Subchapter VI, ss. Comm 22.20, 22.21, 22.23, 22.25, 22.27, 22.28, and 22.31**. Calculations shall be signed, sealed and submitted in accordance with **s. Comm 22.31**.

The **IBC** limitations below are in accordance with the current **Wisconsin Amended IBC 2000 Code:**

- **Foam Plastic:** The CF and FE closed-cell rigid spray polyurethane insulation shall be separated from the building interior with a thermal barrier as required by **s. IBC 2603.4**.
- **Thermal Performance:** The CF and FE closed-cell rigid spray polyurethane insulation shall meet the thermal performance requirements of **s. Comm 63.1018(2)(a)1., and (c)**. Calculations shall be signed, sealed and submitted in accordance with **s. Comm 63.1019**.

This approval will be valid through December 31, 2008, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The product approval is applicable to projects approved under the current edition of the applicable codes. This approval may be void for project approvals made under future applicable editions. The Wisconsin Building Product Evaluation number must be provided when plans that include this product are submitted for review.

## **DISCLAIMER**

The department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement not specified in this document.

Revision Date: April 25, 2005

Approval Date: September 9, 2003 By: \_\_\_\_\_

Lee E. Finley, Jr.  
Product & Material Review  
Integrated Services Bureau

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